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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,037	10/11/2005	Ulrike Licht	278600US0PCT	6780

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EXAMINER	
NILAND, PATRICK DENNIS	

ART UNIT	PAPER NUMBER
1714	

NOTIFICATION DATE	DELIVERY MODE
07/16/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/553,037	LICHT ET AL.	
	Examiner	Art Unit	
	Patrick D. Niland	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The amendment of 4/5/07 has been entered. Claims 1-20 are pending.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5959027 Jakubowski et al. in view of US Pat. No. 4046729 Scriven et al..

Jakubowski discloses making high solids aqueous primary polyurethane dispersions by reacting polyisocyanate, polyols including polyether and polyester polyols, and chain extenders which fall within the scope of the instantly claimed component b3 and which may include chemically incorporated ionic and nonionic stabilizing functionalities (column 5, lines 57-60). See the entire document, particularly the abstract; column 1, lines 54-67; column 2, lines 1-67, particularly 1-54; column 3, lines 1-67, particularly 36-67, which encompass the instantly claimed ethylene oxide containing moieties; column 4, lines 1-67, particularly 1-52; column 5, lines 1-67, particularly 1-4, 10-15, and 57-60, which discloses the use of chemically incorporated anionic and nonionic moieties to stably disperse the polyurethane of the patentee, and 61-67; column 6, lines 1-67, particularly 1-11 and 53-63, noting the particle sizes and polydispersities thereof of the examples; and the remainder of the document. It is not seen that "primary dispersion" does not include the primary dispersions of the patentee. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the instantly claimed amounts of ethylene oxide moieties and ionic moieties to stabilize the polyurethane of the patentee in view of their disclosure at column 5, lines 57-60 and the fact that the state of the art

has been to use both ethylene oxide moieties, in combination with other more hydrophobic moieties, including propylene oxide and other alkylene oxides to stably disperse polyurethanes in water as evidenced by the full disclosure of Scriven et al., particularly the abstract; column 7, lines 44-68; column 8, lines 1-68, particularly 34-67, more particularly 49-51 and 52-55 which encompasses terminating the polyethers with the instantly claimed CH2OH groups; column 9, lines 1-68, particularly 1-25, more particularly 20-25, which encompasses the instantly claimed polyesterols having the instantly claimed ethylene oxide moieties; column 11, lines 1-68, particularly 1-40 which discloses the instantly claimed component c and its purpose; column 13, lines 1-68, particularly 11-22 column 15, lines 53-68; column 16, lines 1-68; column 17, lines 1-68, particularly 31-53 of which the clear dispersions are understood by those of ordinary skill in the art to be very small particles, often of only one molecule, which are too small to give the Tyndall effect and which would have the instantly claimed particle sizes; and the remainder of the document and the ordinary skilled artisan, at the time of the instant invention was well aware of the effects of using both ionic and nonionic means to stably disperse polyurethanes in water because their affect on the Hydrophile/Lipophile Balance of the polyurethane and the HLB affect on the stability of the dispersed polyurethane is well known and the patentees encompass the instantly claimed amounts of ethylene oxide moieties. There are no unexpected results shown, in a manner commensurate in scope with the cited prior art and the instant claims, stemming from the instantly claimed ethylene oxide amounts. The above requires the reacting of the components of the instant claim 8. It is not seen that the dispersers of the patentee's would use shear above that of the instant claim 9, particularly where enough hydrophilic portion is present in the polyurethane that it is self dispersing (See Scriven column 5, lines 15-25 and column 17,

lines 7-11 and Jakubowski, column 4,lines 23-27 and column 8, lines 20-25). Coating substrates according to the instant claims 10-11 is disclosed at Jakubowski, column 7, lines 13-18.

No evidence is seen that the dispersions discussed above are not "primary dispersions". High shear is not required where the polyurethanes have high contents of hydrophilic salt groups and ethylene oxide content since the hydrophilic molecules are readily compatible with water as understood by the ordinary skilled artisan, though most of the instant claims do not exclude high shear. It is noted that the instant claims and the prior art encompass polyurethanes which are self emulsifying. See Jakubowski, column 5, lines 57-60. The disclosure of Jakubowski encompasses the instantly claimed component b1 encompasses the instantly claimed component b1 at column 3, lines 36-67, particularly where the Rs are ethylene and propylene as encompassed by "independently" as well as at the broad recitations of polyalkylene ether glycols. There is no showing commensurate in scope with the cited prior art and the instant claims of any unexpected differences in dispersion properties based on the instantly claimed amounts of ethylene oxide units. It is noted that the prior art and the instant claims encompass both ethylene oxide and salt group presence. It is noted that both encompass a broad array of hydrophile lipophile balances in the backbones of the formed polyurethanes based on the varied properties of the reactants encompassed and the amounts thereof encompassed by the prior art and the instant claims. This materially affects dispersion properties. It is not seen that the average particle sizes of the patentee do not correspond to the z average particle sizes of the instant claims 7 and 17-19, particularly where the larger amounts of salt and ethylene oxide units are present which make the polyurethane more compatible with water, i.e. the polyurethane is approaching solubility. Arguments relating to water and oil phase are not commensurate in

scope with the instant claims and the cited prior art. The instant claims do not require an oil phase separate from that of the polyurethane itself nor do they require any polyurethanes according to the present invention at the interface between the water and the oil phase. Where polyurethane is the oil phase, it is necessarily at the oil/water interface in the dispersions of the references by definition of dispersion. As discussed in the interview, the instant claims require no oil phase other than the polyurethane. Furthermore, no difference in particle size of the particles of the prior art and the instant claims is seen in a manner commensurate in scope with the prior art and the instant claims, particularly at the maximum amounts of ethylene oxide and salt groups of the prior art and the instant claims. The amount of column 13, lines 11-22 shows that the ordinary skilled artisan knows to use amounts of ethylene oxide within the scope of the instant claims to give dispersion stability to aqueous polyurethanes. Considering the other polyols of Jakubowski mixed with stabilizing ethylene oxide moieties, this amount combined with the other polyols of Jakubowski would give both amounts of the instant claims of ethylene oxide moieties because the instantly claimed b1 reads on polyols (plural) and thus does not require the ethylene oxide amount to be based on a single polyol. Furthermore, the ethylene oxide/propylene oxides are well known and encompassed by both references in combination with salt groups also. The state of the prior art at the time of the instantly claimed invention is such that the ordinary skilled artisan understood how to modify the hydrophile lipophile balance of the dispersed polyurethanes to obtain stable dispersions as evidenced by the considerations of both Scriven's and Jakubowski's teachings in these regards. Column 15, lines 53-56 of Scriven acknowledges this. No unexpected results for the ratio of ethylene oxide claimed is seen in a manner commensurate in scope with the instant claims. The applicant's arguments have been

fully considered but for the reasons stated above and the teachings in the cited prior art are not persuasive. This rejection is therefore maintained.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick D. Niland
Primary Examiner
Art Unit 1714